

REMARKS

Claims 1 to 52 were pending in the application at the time of examination. The rejection objected to the drawings, the specification, and Claim 25. Claims 1 to 52 stand rejected for obviousness-type double patenting. Claims 14 to 26 stand rejected under 35 U.S.C. § 101 as directed to non-statutory subject matter. Claims 1, 3 to 7, 9 to 12, 14, 16 to 20, 22 to 25, 27, 29 to 33, 35 to 38, 40, 42 to 46, and 48 to 51 stand rejected as anticipated. Claims 2, 8, 13, 15, 21, 26, 28, 34, 39, 41, 47 and 52 stand rejected as obvious.

Objections to the Drawings

Figure 1 was objected to because reference numerals 120, 115, and 140 were not mentioned in the description. Applicant has amended paragraph [0009] of the description to include reference numerals 120, 115, and 140 for the elements corresponding to those reference numerals in Fig. 1. Thus, the amendment to the description obtains correspondence between the description and Fig. 1. Applicant respectfully requests reconsideration and withdrawal of the objection to Fig. 1.

Figure 3 was objected to because reference numerals 325, 330, 335, 340, and 370 were not mentioned in the description. Applicant has amended paragraphs [0035] and [0039] of the description to include reference numerals 325, 330, 335, 340, and 370 for the elements corresponding to those in Fig. 3. With respect to reference numeral 325, the structure depicted in Fig. 3 was described in the description. Thus, the amendments to the description obtain correspondence between the description and Fig. 3. Applicant respectfully requests reconsideration and withdrawal of the objection to Fig. 3.

Figure 5B was objected to because reference numeral 510 was not mentioned in the description. Applicant has amended

paragraph [0051] of the description to include reference numeral 510 for the element having that reference numeral in Fig. 5B. Applicant respectfully requests reconsideration and withdrawal of the objection to Fig. 5B.

Figure 2 is objected to because reference numeral 218 is used to designate both the "numeric keyboard" and the "alphanumeric keyboard." In the enclosed replacement sheet for Fig. 2, the reference numeral for the alphanumeric keyboard has been changed to "219" and a corresponding change made in paragraph [0032] to obtain correspondence between the description and Fig. 2. Applicant respectfully requests entry of the replacement sheet as well as reconsideration and withdrawal of the objection to Fig. 2.

Fig. 4 was objected to because reference numeral 485 was used for both the "obfuscation descriptor" and the "virtual machine." In the enclosed replacement sheet for Fig. 4, the reference numeral for the virtual machine has been changed to "491" and corresponding changes made in paragraphs [0040], [0041] to obtain correspondence between the description and Fig. 4. Applicant respectfully requests entry of the replacement sheet as well as reconsideration and withdrawal of the objection to Fig. 4

Response to Requirement to Review and Correct Drawings.

Reference number 495 in paragraph [0043] was not shown in the drawings. Applicant respectfully notes that in Fig. 4, the virtual machine identifier is not shown as a separate element. Accordingly, reference numeral 495 was deleted in paragraph [0043] to obtain correspondence between the drawings and the specification.

Reference numerals 430, 435, 440, and 470 in Fig. 4 were not mentioned in the description. Applicant has amended paragraph [0043] of the description to include reference numerals 430, 435, 440, and 470 for the elements having those reference numerals in Fig. 4. In particular, a description was added based on the elements in Fig. 4 and

the corresponding description for Fig. 3. Thus, the amendments to the description obtain correspondence between the description and Fig. 4 and do not constitute new matter.

Reference numeral 550 in Fig. 5C was not mentioned in the description. Applicant has amended paragraph [0052] of the description to include reference numeral 550 for the element having that reference numeral in Fig. 5C. In particular, a description was added based on the element in Fig. 5C. Thus, the amendment to the description obtains correspondence between the description and Fig. 5 and does not constitute new matter.

Reference numerals 3110 and 3114 in Figure 31 were not mentioned in the description. Applicant has amended paragraph [0106] and [0108] to correct typographical errors in the reference numerals so that reference numeral 3110 is included in the description and reference numeral 3114 is deleted. Thus, the amendments to the description obtain correspondence between the description and Fig. 31 and do not constitute new matter.

Reference numerals 3220 and 3250 in Figure 32 were not mentioned in the description. Applicant has amended paragraph [0113] of the description to include reference numerals 3220 and 3250 for the elements having those reference numerals in Fig. 32. The amendments to the description obtain correspondence between the description and Fig. 32 and do not constitute new matter.

Reference numerals 3610 and 3615 in Fig. 36 were not mentioned in the description. Applicant has submitted a replacement sheet for Fig. 36 in which reference numerals 3610 and 3615 have been removed. Fig. 36 does not include any information about these reference numerals and elements do not appear in the description that could be associated with these reference numerals. Thus, these reference numerals appear extraneous and so were deleted. Applicant respectfully requests entry of the replacement sheet with Fig. 36.

Objections to the Specification

Applicant has amended paragraphs [0001] to [0005] to remove the Attorney Docket Numbers and to properly reflect the status of the U.S. Patent Applications cited therein. Applicant respectfully requests reconsideration and withdrawal of the objection to paragraphs [0001] to [0005].

Applicant has amended paragraph [0017] to provide the term commonly associated with "ATM networks." Applicant respectfully requests reconsideration and withdrawal of the objection to paragraph [0017].

Applicant has amended paragraph [0036] to correct a typographical error.

Applicant has amended paragraph [0040] to correct the name of the element associated with reference numeral 482 to obtain correspondence between the drawings and the description.

Applicant has amended paragraph [0051] to correct a typographical error and thereby obtain correspondence between the drawings and the description.

Applicant has amended paragraph [0085] to correct a spelling error.

Applicant has amended paragraph [0086] to correct a typographical error and thereby obtain correspondence between the drawings and the description.

Applicant has amended paragraph [0094] to correct a typographical error and thereby obtain correspondence between the drawings and the description.

Applicant has amended paragraph [0096] to correct a typographical error and thereby obtain correspondence between the drawings and the description.

Applicant has amended paragraph [0098] to correct a typographical error and thereby obtain correspondence between the drawings and the description.

Applicant has amended paragraph [0101] to correct typographical errors and thereby obtain correspondence between the drawings and the description.

Applicant has amended paragraph [0125] to correct a typographical error and thereby obtain correspondence between the drawings and the description.

Objections to the Claims

Claim 25 stands objected to for informalities. Applicant has amended Claim 25 to remove the noted informality and improper claim dependency. Claim 26 was also amended to correct an improper claim dependency. Applicant respectfully requests reconsideration and withdrawal of the objection to Claim 25.

Provisional Double Patenting Rejection in View of U.S. Patent Application Serial No. 10/672,836.

The rejection stated in part "claims 1 to 63 contain all the limitations of claims 1 to 52 of the instant application." This is incorrect. For example, Claim 1 in U.S. Patent Application Serial No. 10/672,836 fails to suggest or teach:

. . . .
determining an application program data location permutation to apply to a current data location counter value;

. . . .
if said application program instruction references application program data, applying said application program data location permutation to data referenced by said application program instruction to obtain a second reference to data to access, said data to access interleaved with application program instructions in said instruction stream

Neither of these elements from Claim 1 in the instant application is found in the claims of U.S. Patent Application Serial No. 10/672,836. Therefore, the premise

in the rejection that all limitations are found in Claims 1 to 63 of U.S. Patent Application Serial No. 10/672,836 is incorrect. Further, there is no suggestion or teaching in the Claims of U.S. Patent Application Serial No. 10/672,836 of "a current data location counter value" or any use of such a value. It is the claims that must be compared and such a comparison shows that the instant application includes limitations that are neither suggested nor disclosed by the claims in U.S. Patent Application Serial No. 10/672,836. Accordingly, the obviousness double patenting rejection of Claims 1, 14, 27, and 40 and the claims dependent thereon is not well founded.

Further, Claim 16 in U.S. Patent Application Serial No. 10/672,836 fails to suggest or teach:

determining an application program data location permutation that transforms said first application program into an obfuscated application program, said obfuscated application program having at least one application program datum stored at a memory location that is based at least in part on a permutation of the memory location where the corresponding application program datum is stored in said first application program;

determining a first data location of said first application program;

applying said application program instruction location permutation **and** said application program data location permutation to said first application program to create an obfuscated application program

None of these elements from Claim 7 in the instant application is found in the claims of U.S. Patent Application Serial No. 10/672,836. Therefore, the premise in the rejection that all limitations are found in Claims 1 to 63 of U.S. Patent Application Serial No. 10/672,836 is incorrect. Further, there is no suggestion or teaching in

the Claims of U.S. Patent Application Serial No. 10/672,836 of determining an application program data location permutation, determining a first data location, or applying a combination to two things. It is the claims that must be compared and such a comparison shows that the instant application includes limitations that are neither suggested nor disclosed by the claims in U.S. Patent Application Serial No. 10/672,836. Accordingly, the obviousness double patenting rejection of Claims 7, 20, 33, and 46 and the claims dependent thereon is not well founded.

Applicant respectfully requests reconsideration and withdrawal of the provisional obviousness-double patenting rejection of Claims 1 to 52 in the instant application in view of Claims 1 to 63 in U.S. Patent Application Serial No. 10/672,836.

Provisional Double Patenting Rejection in View of U.S.
Patent Application Serial No. 10/672,700

The rejection stated in part "claims 1-63 of the copending application contain all the limitations of claims 1-52 of the instant application." Again this is incorrect. For example, Claim 1 in U.S. Patent Application Serial No. 10/672,700 fails to suggest or teach:

. . . .
determining an application program data location permutation to apply to a current data location counter value;

. . . .
if said application program instruction references application program data, applying said application program data location permutation to data referenced by said application program instruction to obtain a second reference to data to access, said data to access interleaved with application program instructions in said instruction stream

Neither of these elements from Claim 1 in the instant application is found in the claims of U.S. Patent Application Serial No. 10/672,700. Therefore, the premise

in the rejection that all limitations are found in Claims 1 to 63 of U.S. Patent Application Serial No. 10/672,700 is incorrect. Further, there is no suggestion or teaching in the Claims of U.S. Patent Application Serial No. 10/672,700 of "a current data location counter value" or any use of such a value. It is the claims that must be compared and such a comparison shows that the instant application includes limitations that are neither suggested nor disclosed by the claims in U.S. Patent Application Serial No. 10/672,700. Accordingly, the obviousness double patenting rejection of Claims 1, 14, 27, and 40 and the claims dependent thereon is not well founded.

Further, neither Claim 5, Claim 8, nor Claim 9 in U.S. Patent Application Serial No. 10/672,700 suggests or teaches:

determining an application program data location permutation that transforms said first application program into an obfuscated application program, said obfuscated application program having at least one application program datum stored at a memory location that is based at least in part on a permutation of the memory location where the corresponding application program datum is stored in said first application program;

determining a first data location of said first application program;

applying said application program instruction location permutation **and** said application program data location permutation to said first application program to create an obfuscated application program

None of these elements from Claim 7 in the instant application is found in the claims of U.S. Patent Application Serial No. 10/672,700. Therefore, the premise in the rejection that all limitations are found in Claims 1 to 63 of U.S. Patent Application Serial No. 10/672,700 is

incorrect. Further, there is no suggestion or teaching in the Claims of U.S. Patent Application Serial No. 10/672,700 of determining an application program data location permutation, determining a first data location, or applying a combination to two things. It is the claims that must be compared and such a comparison shows that the instant application includes limitations that are neither suggested nor disclosed by the claims in U.S. Patent Application Serial No. 10/672,700. Accordingly, the obviousness double patenting rejection of Claims 7, 20, 33, and 46 and the claims dependent thereon is not well founded.

Applicant respectfully requests reconsideration and withdrawal of the provisional obviousness-double patenting rejection of Claims 1 to 52 in the instant application in view of Claims 1 to 63 in U.S. Patent Application Serial No. 10/672,700.

Provisional Double Patenting Rejection in View of U.S.
Patent Application Serial No. 10/672,183.

The rejection stated in part "claims 1-48 of the copending application contain all the limitations of claims 1-52 of the instant application." Yet again this is incorrect. For example, Claim 1 in U.S. Patent Application Serial No. 10/672,183 fails to suggest or teach:

. . .
determining an application program data location permutation to apply to a current data location counter value;

. . .
if said application program instruction references application program data, applying said application program data location permutation to data referenced by said application program instruction to obtain a second reference to data to access, said data to access interleaved with application program instructions in said instruction stream

Neither of these elements from Claim 1 in the instant application is found in the claims of U.S. Patent

Application Serial No. 10/672,183. Therefore, the premise in the rejection that all limitations are found in Claims 1 to 48 of U.S. Patent Application Serial No. 10/672,183 is incorrect. Further, there is no suggestion or teaching in the Claims of U.S. Patent Application Serial No. 10/672,183 of "a current data location counter value" or any use of such a value. It is the claims that must be compared and such a comparison shows that the instant application includes limitations that are neither suggested nor disclosed by the claims in U.S. Patent Application Serial No. 10/672,183. Accordingly, the obviousness double patenting rejection of Claims 1, 14, 27, and 40 and the claims dependent thereon is not well founded.

Further, Claim 8 in U.S. Patent Application Serial No. 10/672,183 fails to suggest or teach:

determining an application program data location permutation that transforms said first application program into an obfuscated application program, said obfuscated application program having at least one application program datum stored at a memory location that is based at least in part on a permutation of the memory location where the corresponding application program datum is stored in said first application program;

determining a first data location of said first application program;

applying said application program instruction location permutation **and** said application program data location permutation to said first application program to create an obfuscated application program

None of these elements from Claim 7 in the instant application is found in the claims of U.S. Patent Application Serial No. 10/672,183. Therefore, the premise in the rejection that all limitations are found in Claims 1 to 48 of U.S. Patent Application Serial No. 10/672,183 is

incorrect. Further, there is no suggestion or teaching in the Claims of U.S. Patent Application Serial No. 10/672,183 of determining an application program data location permutation, determining a first data location, or applying a combination to two things. It is the claims that must be compared and such a comparison shows that the instant application includes limitations that are neither suggested nor disclosed by the claims in U.S. Patent Application Serial No. 10/672,183. Accordingly, the obviousness double patenting rejection of Claims 7, 20, 33, and 46 and the claims dependent thereon is not well founded.

Applicant respectfully requests reconsideration and withdrawal of the provisional obviousness-double patenting rejection of Claims 1 to 52 in the instant application in view of Claims 1 to 48 in U.S. Patent Application Serial No. 10/672,183.

35 U.S.C. § 101 Rejections

Claims 14 to 26 stand rejected under 35 U.S.C. § 101 as directed to non-statutory subject matter. The rejection concludes that these claims are directed at a listing of code.

Applicant respectfully traverses the § 101 rejection of Claims 14 to 26. The claims recite "a program of instructions executable by the machine." A program listing itself is not executable and so the rejection reaches for an interpretation that renders the explicit claim limitation meaningless. Nevertheless, to move prosecution forward, the preamble of the claim has been reworded to make it clear that, as originally recited, the stored computer readable instructions themselves are executed. Applicant respectfully requests reconsideration and withdrawal of the § 101 rejection of each of Claims 14 to 26.

§ 102 Rejections

Claims 1, 3 to 7, 9 to 12, 14, 16 to 20, 22 to 25, 27, 29 to 33, 35 to 38, 40, 42 to 46, and 48 to 51 stand rejected under 35 U.S.C. § 102(b) as anticipated by U.S. Patent No. 6,694,435 hereinafter referred to as Kiddy.

The rejection of Claims 1, 14, 27, and 40 stated in part:

receiving an application program that comprises application program instructions and application program data (col. 5, lines 5-25);

determining an application program instruction location permutation to apply to a current instruction counter value (col. 5, lines 45-67);

determining an application program data location permutation to apply to a current data location counter value; receiving said current instruction counter value (col. 5, lines 45-67);

applying said application program instruction location permutation to said current instruction counter value to obtain a first reference to an application program instruction in an instruction stream to execute (col. 6, lines 1-47);

if said application program instruction references application program data, applying said application program data location permutation to data referenced by said application program instruction to obtain a second reference to data to access, said data to access interleaved with application program instructions in said instruction stream (col. 6, lines 65-67, col. 7, lines 1-30); and

executing said application program instruction (col. 7, lines 13-30).

Applicant respectfully traverses the anticipation rejection of each of Claims 1, 14, 27, and 40.

Applicant respectfully notes that for an anticipation rejection it is not enough that Kiddy describes a method of obfuscation, but rather, according to the MPEP, Kiddy must show each limitation in the same level of detail and arranged as required by the claim. MPEP § 2131, 8th Ed., Rev. 5, p. 2100-67 (August 2006). Kiddy, Col. 5, lines 45 to 67 taught:

FIG. 5 shows a block diagram of an obfuscation method according to one embodiment of the present invention. Operations 512 and 522, corresponding to operations 419 and 429 in FIG. 4, break the operative instruction streams into parts. After the instruction streams are broken into parts, the parts are optionally transformed in operations 514 or 524. **The optional transformations may involve reversing loops, expanding loops, flow transformation, renaming identifiers, changing the usage of variables, eliminating or substituting instructions, etc.** Finally, the optionally transformed parts are interleaved into a new obfuscated instruction stream in operation 532. In other embodiments of the present invention, optional transformations may also take place before the virtual machine instruction streams are broken into parts. (Emphasis Added).

While FIG. 5 shows an example of interleaving two instruction streams into an obfuscated stream, multiple instructions streams can be interleaved into a single obfuscated instructions stream according to the present invention. FIG. 6 shows an example where three streams of computer instructions are interleaved.

This section includes a laundry list of optional transformations and then interleaving of the parts. However, this laundry list and interleaving fails to show each limitation in the same level of detail and arranged as required by the claim, i.e.,

determining an application program
instruction location permutation to apply to a
current instruction counter value

There is no teaching of determining an application program instruction location permutation for applying to a current instruction counter value. Similarly there is no teaching of

determining an application program data
location permutation to apply to a current data
location counter value.

The laundry list of Kiddy fails to teach, in the same level of detail as recited in the claim, at least these two elements. Kiddy fails to mention two different permutations that are applied to two different counter values. Finally,

the cited section of Kiddy, as quoted above, teaches nothing about receiving any counter value. Thus, based on the MPEP requirements for an anticipation rejection, Kiddy fails for multiple reasons to teach the invention in the same level of detail as recited in each of these claims. Applicant respectfully requests reconsideration and withdrawal of the anticipation rejection of each of Claims 1, 14, 27, and 40.

Applicant respectfully traverses the anticipation rejection of each of Claims 3 to 6, 16 to 19, 29 to 32, and 42 to 45. Each of these claims distinguishes over Kiddy at least for the same reasons as the independent claim from which it depends. Applicant respectfully requests reconsideration and withdrawal of the anticipation rejection of each of Claims 3 to 6, 16 to 19, 29 to 32, and 42 to 45.

The rejection of Claims 7, 20, 33 and 46 stated in part:

determining an application program instruction location permutation that transforms said first application program into an obfuscated application program, said obfuscated application program having at least one application program instruction stored at a memory location that is based at least in part on a permutation of the memory location where the corresponding application program instruction is stored in said first application program (col. 5, lines 45-67);

determining a first instruction location of said first application program (col. 5, lines 45-67);

determining an application program data location permutation that transforms said first application program into an obfuscated application program, said obfuscated application program having at least one application program datum stored at a memory location that is based at least in part on a permutation of the memory location where the corresponding application program datum is stored in said first application program (col. 5, lines 45-67, col. 6, lines 1-47);

determining a first data location of said first application program (col. 5, lines 45-67);

applying said application program instruction location permutation and said application program data location

permutation to said first application program to create an obfuscated application program comprising an instruction stream having application program data interspersed with application program instructions (col. 6, lines' 1-47);

Applicant respectfully traverses the anticipation rejection of each of Claims 7, 20, 33 and 46.

Applicant again respectfully notes that for an anticipation rejection it is not enough that Kiddy describes a method of obfuscation, but rather, according to the MPEP, Kiddy must show each limitation in the same level of detail and arranged as required by the claim. MPEP § 2131, 8th Ed., Rev. 5, p. 2100-67 (August 2006).

As quoted above, Kiddy, Col. 5, lines 45 to 67 includes a laundry list of optional transformations and then interleaving of the parts. However, this laundry list and interleaving fails to show each limitation in the same level of detail and arranged as required by the claim. This section of Kiddy does not mention "determining an application program instruction location permutation," or "said obfuscated application program having at least one application program instruction stored at a memory location that is based at least in part on a permutation of the memory location where the corresponding application program instruction is stored in said first application program." There is no mention of program instruction location permutation or any teaching of where anything is stored.

Similarly, the quoted section of Kiddy fails to teach

determining an application program
instruction location permutation to apply to a
current instruction counter value

There is no teaching of determining an application program instruction location permutation for applying to a current instruction counter value. Similarly there is no teaching of data storage locations or permutations. It is not enough that Kiddy mention generally transformations.

The MPEP is unequivocal, Kiddy must teach the same level of detail as recited in these claims. Thus, based on the MPEP requirements for an anticipation rejection, Kiddy fails for multiple reasons to teach the invention in the same level of detail as recited in each of these claims. Applicant respectfully requests reconsideration and withdrawal of the anticipation rejection of each of Claims 7, 20, 33 and 46.

Applicant respectfully traverses the anticipation rejection of each of Claims 9 to 12, 22 to 25, 35 to 38, and 48 to 51. Each of these claims distinguishes over Kiddy at least for the same reasons as the independent claim from which it depends. Applicant respectfully requests reconsideration and withdrawal of the anticipation rejection of each of Claims 9 to 12, 22 to 25, 35 to 38, and 48 to 51.

§ 103 Rejections

Claims 2, 8, 13, 15, 21, 26, 28, 34, 39, 41, 47 and 52 stand rejected under 35 U.S.C. 103(a). Assuming that the combination of references is correct for each of these claims, the additional material relied upon from the secondary reference does not correct the deficiencies of Kiddy with respect to the independent claims from which these claims depend. Therefore, each of Claims 2, 8, 13, 15, 21, 26, 28, 34, 39, 41, 47 and 52 distinguish over the combination of references for at least the same reasons as the independent claims. Applicant respectfully requests reconsideration and withdrawal of the obviousness rejection of each of Claims 2, 8, 13, 15, 21, 26, 28, 34, 39, 41, 47 and 52.

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Appl. No. 10/673,021

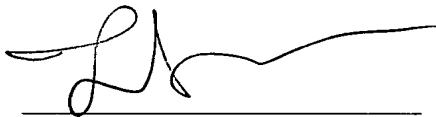
Amdt. dated May 25, 2007

Reply to Office Action of February 27, 2007

Claims 1 to 52 remain in the application. Claims 14, 20, 25 and 26 have been amended. For the foregoing reasons, Applicant(s) respectfully request allowance of all pending claims. If the Examiner has any questions relating to the above, the Examiner is respectfully requested to telephone the undersigned Attorney for Applicant(s).

CERTIFICATE OF MAILING

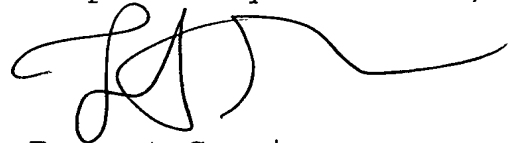
I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on May 25, 2007.



Attorney for Applicant(s)

May 25, 2007
Date of Signature

Respectfully submitted,



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Amendments to the Drawings:

A first attached sheet of drawings includes changes to Fig. 2. This sheet, which includes Fig.2, replaces the original sheet including Fig. 2.

A second attached sheet of drawings includes changes to Fig. 4. This sheet, which includes Fig. 4, replaces the original sheet including Fig. 4.

A third attached sheet of drawings includes changes to Fig. 36. This sheet, which includes Fig. 36, replaces the original sheet including Fig.36.

Attachment: Three Replacement Sheets